

REMARKS

I. Election/Restrictions

Applicants affirm the provisional election of the claims of Group III, directed to an electro-optical headset and microphone.

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II. Correction of Typographical Error

Applicants have amended claim 42 to correct a typographical error.

III. Objection to the Specification

10 Applicants have submitted a replacement paragraph for page 17 of the Specification to address the Examiner's objection with respect to the "wedge 180," and Applicants respectfully request that the Examiner withdraw these objections.

IV. Status of the Claims

15 Claims 18-20, 22-29, 35, 37-39, and 42 are currently pending in the Application. (Claims 1-17, 30-34, and 40-41 have been withdrawn, and claims 21 and 36 have been cancelled.) Of the remaining claims, claims 18, 35, and 42 are in independent format. Claims 19-20 and 22-29 depend from independent claim 18, and claims 37-39 depend from independent claim 35.

Independent claims 18 and 35, as amended, claim a "microphone element for receiving
20 second sound waves . . . and for producing a fourth electrical signal based on the second sound waves." Claims 18 and 35 also claim "an electro-optical shutter . . . for receiving [a] first modulated light signal and modulating the first modulated light signal to produce [a] second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal,"

which, as claimed, is “based on . . . sound waves.”

Independent claim 42 claims “an electrical microphone for receiving second sound waves representative of . . . second audio and for producing a fourth electrical signal based on the second sound waves representative of the second audio.” Claim 42 also includes “a liquid crystal display
5 element electrically connected to the electrical microphone for receiving the first modulated light signal along a second optical path from the optical splitter and modulating the first modulated light signal to produce the second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal,” which, as claimed, is “based on . . . sound waves.”

The present response is intended to be fully responsive to the rejection raised by the Office
10 and is believed to place the application in condition for allowance. Further, Applicants do not concede any of the Office’s rejections or comments not particularly addressed. Favorable reconsideration and allowance of the application is respectfully requested.

V. Responses to Section 102 Rejections

15 The Office rejected Claims 18, 19, 24, 29, 35, and 39 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. US2001/0034253 granted to Ruschin (“*Ruschin*”). Without addressing the merits of the Office’s rejection, which are not conceded, Applicants note that they have amended independent claims 18 and 35 to include a “microphone element for receiving second sound waves . . . and for producing a fourth electrical signal based on the second
20 sound waves.” Claims 18 and 35 also claim “an electro-optical shutter . . . for receiving [a] first modulated light signal and modulating the first modulated light signal to produce [a] second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal,” which, as claimed, is “based on . . . sound waves.”

As stated by the Office, "*Ruschin* does not expressly disclose[] an electro-optical shutter electrically connected to the electrical microphone for receiving the first modulated light signal and modulating the first modulated light signal to produce the second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal." Office Action at 5 7, ¶ 20. Because claims 19, 24, 29 and 39 depend from claims 18 and 35 and include all of the limitations of claims 18 or 35, these claims distinguish *Ruschin* for the same reasons discussed above with regard to claims 18 and 35. Applicants respectfully request that the Examiner withdraw the rejections of these claims.

10 VI. Responses to Section 103 Rejections

The Office further rejected claim 20 under 35 U.S.C. § 103(a) as being unpatentable over *Ruschin* and in further view of Official Notice set forth by the Office ("*Official Notice*"). The Office also rejected claims 21-23 and 36-38 under 35 U.S.C. § 103(a) as being unpatentable over *Ruschin* and in further view of U.S. Patent No. 6,055,500 granted to Terui ("*Terui*"), and U.S. 15 Patent No. 5,812,295 granted to Kitasagami ("*Kitasagami*"). The Office further rejected claims 25-27 under 35 U.S.C. § 103(a) as unpatentable in view of *Ruschin* and in further view of *Kitasagami*. Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable in view of *Ruschin* and in further view of U.S. Patent No. 6,154,301 granted to Harvey ("*Harvey*"). The Office also rejected claim 42 under 35 U.S.C. § 103(a) as being unpatentable in view of *Ruschin*, *Terui*, *Kitasagami*, and 20 *Harvey*. Applicants respectfully traverse the Office's rejections of these claims based on the foregoing amendment and following arguments.

The Proposed Combination Does Not Teach All the Elements

Applicants submit that *Ruschin* and *Terui*, alone or combined, fail to disclose, teach, or suggest all the elements of independent claim 42 and amended independent claims 18 and 35. At a minimum, these cited references do not teach the element and/or combination of elements of Applicants' claims that recite using an electro-optical shutter (claims 18 and 35) or a liquid crystal display element (claim 42) for modulating a first modulated light signal to produce a second modulated light signal that is representative of an electrical signal *based on sound waves*.

As set forth in the Office Action, the Office admitted that *Ruschin* does not disclose such elements. Specifically, the Office stated, "*Ruschin* does not expressly disclose[] an electro-optical shutter electrically connected to the electrical microphone for receiving the first modulated light signal and modulating the first modulated light signal to produce the second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal." Office Action at 7. The Office added that *Ruschin* does not "expressly disclose[] a liquid crystal display element electrically connected to the electrical microphone" *Id.* at 17.

To support the rejection of claims 21 and 42, the Office instead relied on *Terui*. To this end, the Office stated that "an optical shutter using an LCD may be used as a *transmission enable signal output means*." Office Action at 8, 18 (emphasis added). Contrary to the Office's contentions, the Applicants respectfully submit that *Terui*, like *Ruschin*, also fails to disclose, teach, or suggest using an electro-optical shutter or liquid crystal display ("LCD") that modulates a light signal to produce a second modulated light signal that is representative of an electrical signal *based on sound waves*.

As cited by the Office, *Terui* states that "an optical shutter using an LCD may be used as a transmission enable signal output means." *Terui*, col. 10, lines 9-10. *Terui* differentiates, however, between a means for *enabling* "transmission" or "reception" of signals and the means by which

those signals are transmitted or received (a “voice information transmission means” or “voice information reception means”):

5 In order to achieve the former portion of the above object, according to the present invention, there is provided a voice information transfer system for transferring voice information in the form of an optical signal from a first voice information processing apparatus to a second voice information processing apparatus, comprising, the first voice information processing apparatus including: transfer enable signal reception means for receiving a transfer enable signal for enabling transfer of the voice information from the second voice information processing apparatus in a noncontact state, and voice information transmission means for transmitting the voice information converted into the optical signal to the second voice information processing apparatus when the transfer enable signal reception means receives the transfer enable signal from the second voice information processing apparatus, and the second voice information processing apparatus including: proximity detecting means for detecting proximity of the first voice information processing apparatus, transfer enable signal transmission means for transmitting the transfer enable signal to the first voice information processing apparatus when the proximity detecting means detects the proximity, and voice information reception means for receiving the voice information from the first voice information processing apparatus, which is converted into the optical signal, in a noncontact state.

Terui, col. 1, line 67 through col. 2, line 26 (emphasis added).

Terui only states that “an optical shutter using an LCD may be used as a *transmission enable* signal output means.” *Terui*, col. 10, lines 9-10 (emphasis added). *Terui* does not state, in the cited portions or elsewhere, that an “optical shutter using an LCD” can be used as a “voice information reception” or “voice information transfer” means. Because *Terui* differentiates between a “transmission enable signal” and “voice information,” it does not disclose elements directed to using an electro-optical shutter or LCD that modulates a first light signal to produce a second modulated light signal that is representative of an electrical signal *based on sound waves*. Thus, Applicants submit that *Terui* fails to disclose, teach, or suggest the claimed elements directed to using an optical shutter or LCD that modulates a light signal to produce a second modulated light signal *based on sound waves*.

Without addressing the merits of the Office's statements regarding claims 19-20, 22-29, and 37-39, which are not conceded, Applicants point out that these claims depend from and include all of the limitations of claims 18, 35, and 42, respectively. Therefore, these claims distinguish the cited reference for the same reasons discussed above with regard to claims 18, 35, and 42. It is respectfully requested that the Examiner withdraw the rejections of these claims.

CONCLUSION

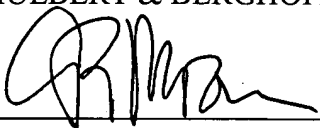
In light of the above amendments and remarks, Applicant submits that the present application is in condition for allowance and respectfully requests notice to this effect. The Examiner is requested to contact Applicant's representative below at (312) 913-0001 if any questions arise or if he may be of assistance to the Examiner.

Respectfully submitted,

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP

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By:


Eric R. Moran
Reg. No. 50,967